# THE NAVAL TACTICS OF THE FUTURE.

It is hardly possible to glance at the development of the modern fighting ship from the wooden craft of old without being struck with the analogy between military action afloat and ashore. It is easy to trace a similar line of progress in each case, and to show that the same stages have been successively passed through, in the attempt to render the warrior invulnerable, while providing him with every means possible for inflicting injury upon the foe. Just as the invention of gunpowder led first to the increase of body armor, and then to its final abandonment, so the introduction of rifled guns produced the iron-clad frigates, and their subsequent improvement—the huge, unwieldy monsters that appear such formidable items in the naval strength of European powers. Who shall say, in view of the impossibility of keeping pace with the ever-increasing power of artillery, that these vessels, too, will not give way in time to some new type of unarmored craft? Already the armor-belt is being confined to the more vulnerable parts of the ship, just as, with the soldier, the defensive covering of the arms and legs was abandoned, in order to give greater freedom to the limbs, and allow the covering of the chest to be increased in weight and strength.

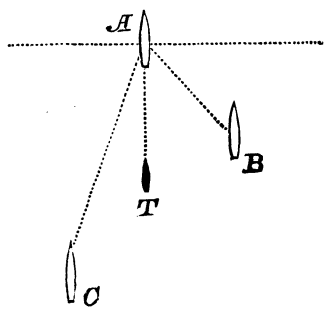
The naval fights of the past were like the hand-to-hand encounters of mail-clad warriors before the days of gunpowder. Apart from the efforts to close with the foe, there was no maneuvering, but each ship, after grappling with an antagonist, hammered away at her till one or the other was placed *hors de combat*, and the victor then passed on in search of another. It was a series of single combats, without much concerted action; the admiral in command, once the battle had begun, losing all control over the action of the fleet, generally. The introduction of steam completely revolutionized the old tactics by enlarging the area within

which maneuvering was possible. It smoothed away, as it were, all physical obstacles, giving an open field to the contending forces, with no strong stragetic positions, the timely occupation of which might turn the tide of battle at some critical moment. It was seen at once that the old system must be abandoned. With the power to move in all directions, the weather-gauge lost its advantages, besides which, any maneuvering for the purpose of attaining a windward position might cause the exposure of a weak front to the attack of an active enemy. New lines were therefore laid down for the movements of a fleet in face of an enemy, and in place of the one order of battle, various formations for attack have found their way into the system of naval tactics adopted by different countries. The same principle, however, so necessary in the days of sailing craft, of keeping the fleet in a compact mass, in order that a crippled ship might have the support of her consorts, was still maintained, and it is only within the past few years that naval commanders have shown a disposition to break entirely with the traditions. The necessity has been recognized of changing the tactical unit, and forming the order of battle not with single ships in one or more lines, but in groups of three or more vessels, and allowing a wider space for maneuvering around each, in order to increase the general mobility of the fleet. The battle of Lissa (1866), the only naval fight, properly speaking, that has taken place since the introduction of steam, was fought on the old lines. The Austrian fleet, in a wedge formation, broke through the Italian in "line ahead," and the ram did more damage than the heavy artillery. The wedge formation is undoubtedly very strong for attack against a fleet in close order, each ship of which has to look for instructions to the same leader. But a fleet, in such a formation, that gave battle to an enemy advancing against it in groups of three, would be very awkwardly situated when one of these "compound units," maneuvering round either flank, attacked it in the rear. The naval tactics of the future must have, as a foundation, the adoption of the group system. The fleet must be divided into small portions, each of which will have its own leader, who, while doing his utmost to carry out the general instructions of the commander-in-chief, will, nevertheless, be guided by circumstances in operating against the enemy. A naval commander-in-chief labors under this disadvantage, that, unlike a military commander, he cannot place himself

on a height, and take in at a glance the disposition of his forces and those of the enemy. The smoke, to a great extent, will hide from his view the course of battle; and when he would fain give orders, either for an advance or a flanking movement, it is only by signals, which may not be seen or understood, that he can endeavor to make known his wishes to those interested. Formerly the admiral led the line, and his ship was generally the first to engage the enemy. Under the altered condition, he should no more seek to be in the *mêlée* than the general in supreme command of an army in action. His flagship should be a vessel very powerful for both attack and defense, but, above all, of very high speed, so as to enable him to change his place with facility at will. Instead of taking up a fixed place in the fleet, the admiral should assume, from time to time, such positions as would best enable him to direct operations, from the facilities they would offer for the proper interpretation of his signals.

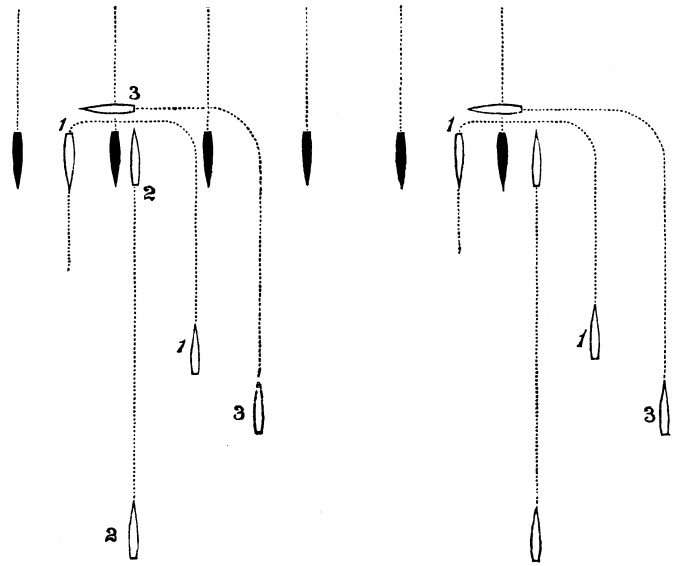
It is not only the increased mobility of ships of war that has necessitated a change of tactics, but also the greater powers of destruction with which they are endowed. Powerful artillery has much lengthened the distance at which an engagement may begin, and new weapons entail other modes of attack. The ram and the locomotive torpedo are both likely to play an important part in naval battles of the future. To use such weapons effectually, however, maneuvering space is necessary for the ship, and freedom of action for the captain in command—two conditions that are incompatible with a close formation, or an order of battle depending upon a rigid observance of fixed rules. The march of invention has destroyed the homogeneity that existed before the days of iron-clads, when fighting craft were all broadside vessels, and only differed from one another in their size and the number and caliber of the guns they carried. A modern fleet would be made up of a variety of craft, every other one of which might represent a distinct type. It is obvious that a "Devastation" or a "Duilio" is not meant to fight under the same conditions as a "Sultan" or an "Alexandria," and the circumstances favorable for the attack of a "Polyphemus" are not those precisely suited to bring out the special qualities of either a turret ship or a broadside vessel. A wise admiral will recognize the distinct purpose for which each different type represented in the fleet under his orders was originally designed, and will dispose

of his ships accordingly. The broadside iron-clads, corresponding to the infantry of which the bulk of a modern army is composed, would form the line of battle, while the turret vessels and special rams would be treated like the flying artillery and heavy cavalry. Thrown out on the flanks of the sailing formation, or placed in the van, they might be employed to open the battle with their heavy guns, while the rest of the fleet was being rapidly formed into the order best suited to the occasion. The Whitehead torpedo is essentially the weapon of opportunity. It can only be regarded as a submarine rocket of short range, which, from the uncertainty of its flight, requires a wide target and an open field. Such being the case, torpedo craft should be considered as the light cavalry of the fleet, to do skirmishing duty, to attack the enemy's ships whenever they can be taken at a disadvantage, and to capture disabled vessels by threatening them with complete destruction. Many favorable opportunities must occur for the operations of torpedo-boats during a general engagement; as, for instance, immediately after the discharge of her broadside by a hostile vessel. The pigmy war-vessel, lurking under the off-side of the iron-clad attacked, can slip round the stern of her protector, and discharge her torpedo at the giant enemy ere the latter has had time to reload her guns. With a view to such action, I would have one or more torpedo-boats attached to each group. Their position would be in the rear of the leading vessel, in the angle formed by her consorts. The accompanying diagram will explain what is meant by the "group" as the tactical unit. *A* is the leader; *B* and *C* the consorts, placed at angles from the line of the keel, varying from 2½ points to 4—the distance in one case being two cables, and in the other twice that amount. *T* is the torpedo-boat. These three ships, in a general movement of the fleet, maneuver as one, always preserving their respective bearings and distance. But the leader may change the positions of *B* and *C* at will, so that the first indicated may become the ship farthest off, and *C* the one nearest at hand. It is seen at a glance that this is a much stronger



formation for attack and defense. When the ships are in line ahead, all of them can use their bow fire, and should a hostile vessel attempt to ram the one, she cannot help exposing herself most favorably to being attacked in a similar manner by one of the others.

As a general principle, a broad front should never be presented to the enemy, as the line might easily be broken, and serious loss be sustained by an attack in columns line ahead. The leading ships of the enemy, wheeling round as they pierced the line, could bring the overwhelming force of numbers to bear upon single ships. This idea I have endeavored to illustrate in the accompanying diagram, in which the dark vessels represent a fleet in line




abreast, and the white ones the enemy attacking it in two columns. The leading vessels of the group, on meeting the enemy's line, have turned sharp round through sixteen points, and ranged up on the broadsides of the ships that are to be surrounded. In the meantime, the right-wing ships, Nos. 3 of the diagram, have turned through eight points, and are under the sterns of the enemy, in a position for pouring in a raking fire, and the rear vessels have come up on the other flank. The concentrated fire of three broadsides is thus brought to bear upon one vessel.

The order of battle to be assumed will much depend upon the formation in which the enemy is found when first discovered by the lookout ships, and a point of the utmost importance is the quick transmission of intelligence respecting this to the commander-in-chief. With the high speed at present attained by ironclads, little time will be allowed for maneuvering before the battle begins, so that any change of formation requiring a large amount of helm would lead to a fatal exposure of the vessels. A fleet in expectation of meeting an enemy should therefore never be placed in such a formation as will not readily admit of its assuming one with a narrow front. It is not in the present day as in the olden time, when the object of a skillful captain was to bring his broadside to bear as often as possible, with a view to a raking fire. Destructive as might be the effect of concentrated fire upon the bows of an enemy, the latter would always be in a position to give more than she received by simply charging ahead. It is to be presumed that opposing fleets will attack in formations of a similar character, probably in columns line ahead, composed either of single ships or groups as the tactical unit, and the course of battle will be somewhat as follows: Rushing toward each other at a high rate of speed, the bow-guns may be discharged before the leading ships have met, but those on the broadsides will be concentrated so as to deliver crushing blows upon the weakest parts of the hostile vessels as they go past. After the fleets have cleared each other, they will naturally endeavor to re-form as speedily as possible, for the purpose of making or repelling another attack. This will be the most critical stage of the battle, for now comes the moment for using the ram and the torpedo. Well will it be for the admiral having a reserve squadron at hand which is free to dash at the foe while the ships are yet in a state of confusion incidental to an extensive change of formation. Everything will depend upon the celerity with which the ships regain a formation enabling them to present a strong front to the enemy. The individual skill and judgment of the captains in command will be displayed in this maneuvering, and the fleet in which the greatest attention has been paid to intricate evolutions will undoubtedly obtain the advantage. For this reason, not only must each ship practise by herself, turning upon circles with various degrees of helm-angles and speed, so that those in command may know exactly what to do when the necessity arrives for moving about at close quarters, but they must

also exercise together at changes of formation while proceeding at rapid rates of speed. The same qualities that won the battles of old—perception of the intentions of the enemy, skill in handling the ship, cool courage, and a clear head in the moment of danger—will give to their possessors victory in the present day. The principle that I have already laid down for the formation of orders of battle—"never expose the flank to the bow of an enemy"—must govern, as far as possible, the movements of single ships. To this may be added another axiom: never swerve from the course, when the fleets are rushing toward each other, in order to avoid being rammed. When the danger is steadily faced, much of it disappears. The shock will be received at the strongest portion of the ship, and if the enemy, dreading the encounter at the last moment, should change her helm but slightly, there is the opportunity to give her the ram with effect.

Just as with armies, a plan of battle must be drawn up beforehand. The commander-in-chief of a fleet must arrange with his captains for a certain course of action to be followed under certain circumstances; as, for instance, after the first charge, supposing the enemy's formation to have been pierced by the fleet in two columns in close order, the latter is to re-form for the purpose of charging again in the same manner, by the one column wheeling round to the right and the other to the left. Such plans, providing for more or less continuous action, should be numbered, so that by the hoisting of a single flag, or other means equally simple, the intentions of the commander-in-chief may be known at once throughout the fleet. I take it that, although two successive charges in good order might possibly take place between opposing fleets, there will be no third general charge; and probably the result of the first one will be to throw both into confusion, and the subsequent portion of the battle will be fought out by the independent action of the several units of which the fleets are composed. This will be the opportunity for the group commanders to distinguish themselves. By judicious management of the vessels under their command, they may be able to surround single ships, and compel them to surrender. The enemy's torpedo-boats will have to be looked after by vessels the specialty of which must be high speed and a multiplicity of machine guns in their armament. The commanders of such vessels must be allowed great independence of action, their duty being to destroy the enemy's torpedo-boats while protecting those of their own fleet.

So far I have treated, it may be said, of naval tactics only. Apart from this there is naval strategy, which will consist in deceiving the enemy as to the intended movements of the fleet, the drawing of his vessels out of protecting ports, and the cutting off of his cruisers from coaling stations. Very much might be written upon this subject, but such matters do not properly enter into a discussion limited to the movements of a fleet in the presence of an enemy. The same may be said in respect to measures of defense adopted against torpedo-boats, and plans of operation for the passage of channels in the possession of hostile troops. I may remark, however, that in respect to naval strategy, the admiral in command of a fleet must be provided with a number of very fast, light cruisers, able to carry coal sufficient to enable them to keep the sea for days together. Such craft, armed with a few long-range guns, must possess speed enough to enable them to outrun any ironclad of the enemy, and to show themselves when necessary, one day in one quarter, and the next several hundred miles away. To continue the comparison between fleets at sea and armies ashore, these craft would be the Uhlans, charged with the duty of exploration and masking intended movements.

In respect to defensive measures against torpedoes, the reader will notice that I have not touched upon the subject of netting. The reason for this is that, in my humble opinion, no ship will ever carry nets into action. Such cumbersome arrangements would prove, in the end, more dangerous to the vessel carrying them than the weapons against which they were designed to protect her. As to the stationary mines of the enemy, no hostile waters should be approached without some knowledge of their condition, and when there is reason to believe in the existence of a submarine defense, measures must be adopted for its destruction previous to an advance of the fleet.

A great deal of torpedo work is nothing but hollow sham, and experts with a knowledge of the physical features of the localities can easily control the reports received from secret agents on the subject of their submarine defenses. There are many places where no sort of stationary mines could possibly survive a gale, and although the waters may be reported as mined in all directions, a bold test would show them to be clear of such dangers. This was the case with Poti and several other open ports of the Russian Black Sea coast during the late war between Russia and Turkey.

They were said to have been extensively torpedoed, and yet Turkish iron-clads entered their waters with impunity on more than one occasion. In places undefended by batteries or field guns, the enemy's obstructions may be removed by processes known to seamen as "sweeping and creeping," with boats and small craft. But where the searching parties would be greatly exposed to heavy fire from the shore, there is nothing to be done but countermine. The defending torpedoes must be destroyed by the explosion of others placed by the attacking force. The advance of the fleet is made, in fact, in a manner similar to that of an invading army upon the city to which it has laid siege. Here is a fine field for the controllable locomotive torpedo. Sent ahead with two or more other ordinary torpedoes in tow, their simultaneous explosion would clear a large space around, either by setting them in action or disarranging their firing gear. In my opinion, torpedoes that can be sent in any direction to considerable distances, and exploded at will, are destined to play a more important part in naval operations than even the much vaunted Whitehead.

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